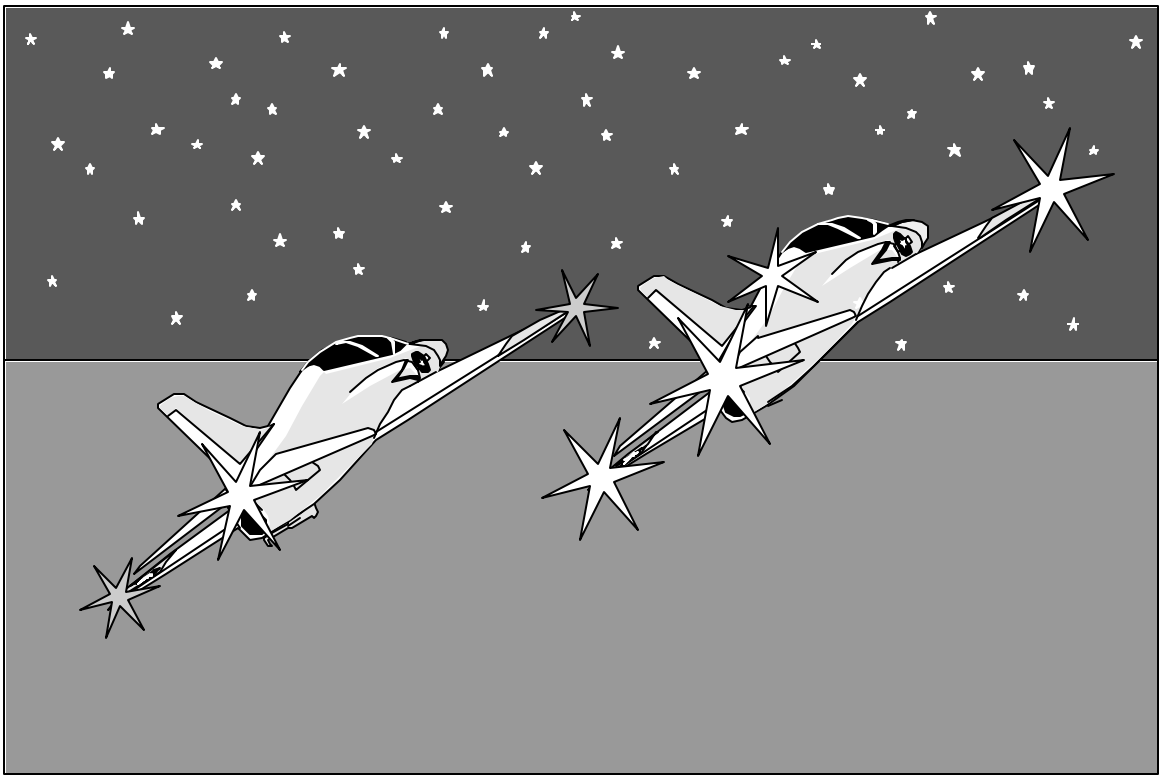
NAVAL AIR TRAINING COMMAND

NAS CORPUS CHRISTI, TEXAS **CNATRA P-1249 (REV. 10-95) PAT**

NIGHT FORMATION FLIGHT PROCEDURES



FLIGHT SUPPORT LECTURE GUIDE

1995

T-45A FLIGHT SUPPORT LECTURE GUIDE

CHANGE SUMMARY PAGE

CHANGE NUMBER	DATE ENTERED	CHANGE DESCRIPTION	INITIALS
1-3	8/26/98	Incorporated	TSC

FLIGHT SUPPORT LECTURE GUIDE
LIST OF EFFECTIVE PAGES

EFFECTIVE PAGES	PAGE NUMBERS
NFFP-01	
Change 3	Title page(s)
Change 2	1-1 thru 1-7
Change 3	1-8
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Change 3	1-18
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EFFECTIVE PAGES	PAGE NUMBERS

FLIGHT SUPPORT LECTURE GUIDE

COURSE/STAGE: Night Formation

LESSON TITLE: Night Formation Flight Procedures

LESSON IDENTIFIER: NFFP-01

LEARNING ENVIRONMENT: Classroom

ALLOTTED LESSON TIME: 1.2 hr

TRAINING AIDS:

* NFormFP CD-ROM

STUDY RESOURCES:

* T-45A NATOPS Flight Manual, A1-T45AB-NFM-000
* Formation Flight Training Instruction (FTI)

LESSON PREPARATION:

Read:

* "Night Formation Flight Procedures" in the Formation FTI

Review:

* Parts III, IV, V, and VII in the T-45A NATOPS Flight Manual, A1-T45AB-NFM-000

REINFORCEMENT: N/A

EXAMINATION:

The objectives in this lesson will be tested in NFFP-02X.

LESSON OBJECTIVES

3.5.5.1
Recall aircraft marshal procedures

3.5.2.1
Recall formation taxi/hold short procedures

3.5.8.2.1
Recall procedures for positioning aircraft for individual takeoff

3.7.1.1.6.1
Recall procedures for TACAN rendezvous

3.7.1.1.1.6.1.1
Recall procedures for section IFR parade/turns away/turns into wingman

3.7.1.1.1.7.2
Recall procedures for crossunder

3.7.1.1.4.5.2
Recall procedures for breakup and rendezvous

3.7.1.1.7.1
Recall procedures for CV rendezvous

3.7.1.1.1.5.2
Recall procedures for underrun maneuver

3.7.1.1.5.1
Recall procedures for running rendezvous

3.7.1.1.1.4.3
Recall procedures for lead change

3.9.1.5.1.1
Recall procedures for section approach

3.9.2.1.1.2
Recall procedures for establishing landing configuration

3.7.1.5.1
Recall procedure for formation lost sight

3.9.1.6.2
Recall procedures for section missed approach

3.9.1.4.1.2
Recall procedures for formation recovery to VFR landing pattern

3.9.1.5.3.1
Recall procedures for section instrument approach with wingman NORDO

3.9.1.3.3.1
Recall procedures for section VFR overhead entry (break)

3.7.1.4.1
Recall formation visual communications

MOTIVATION

Operational requirements for a tactical naval aviator demand proficiency in both shore- and carrier-based night flying including night rendezvous, section approaches and other formation operations. In order to survive in this environment, you must know night-specific procedures learned in primary flight training and Night Familiarization. In addition, this lesson will help you recognize certain light patterns and night-specific signals which will ensure that your night formation flights are safe and professional.

OVERVIEW

After this lesson, you will be familiar with night-specific section formation procedures as they are taught in the Training Command.

During this lesson you will cover night-specific information on:

* Ground procedures
* Individual takeoff
* TACAN rendezvous
* Parade turns
* Crossunder
* Breakup and rendezvous
* Running rendezvous
* Lead change
* Section approach
* T&G rejoin/missed approach
* Section break
* Full flap/slat T&G landings
* Night Formation Visual Signals

REFRESHER

This lesson builds on information presented previously. In particular, recall:

* Daytime formation flight procedures (FFP-01, FFP-02, FFP-03, FFP-05, FFP-07)
* Part III, Chapter 9, Section 9.1, “Formation Flight,” of the T-45A NATOPS Flight Manual
* Night familiarization flight operations (NFAMFP-01)
* Part I, Chapter 2, Section 2.24, “Exterior Lighting System,” of the T-45A NATOPS Flight Manual

Sg 1, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* **Ground procedures**
* Individual takeoff
* TACAN rendezvous
* Parade turns
* Crossunder
* Breakup and rendezvous
* Running rendezvous
* Lead change
* Section approach
* T&G rejoin/missed approach
* Section break
* Full flap/slat T&G landings
* Night formation visual signals

Sg 1, fr 2

GROUND PROCEDURES

* Line checks
  - Check lights
  - Get own clearance
* Aircraft marshal
  - Same as day
* Taxi
  - 300-ft interval on centerline

PRESENTATION

I. Ground procedures

A. Line checks

1. Procedures

a. Execute normal preflight with clear lens flashlight

b. Check exterior lights visually

(1) Check BRIGHT and DIM position of wing, formation, and tail lights

c. Set up exterior lights

(1) Wing lights: BRIGHT

(2) Tail lights: BRIGHT

(3) Formation lights: BRIGHT

(4) Navigation lights: STEADY

(5) Landing lights: OFF

(6) Anti-collision light: ON

(7) Strobe light: OFF (ON for takeoff)

d. Plane captain will signal to check TAXI light

e. Each aircraft gets its own clearance and squawk

2. Common error

a. Error: incorrect lighting configuration

Prevention/correction: ensure proper interior and exterior lighting configuration

B. Aircraft marshal **3.5.5.1**: same as day procedures

C. Taxi/hold short **3.5.2.1**

1. Procedures: same as day procedures except

a. Knowing taxi routes and taxi signals used by line personnel is extremely important due to decreased visibility and depth perception

b. Go slower

NOTE: Use “twice the caution, half the speed.”

c. Use taxi lights for all taxi movements unless aircraft being directed by line personnel; use good judgment to avoid blinding other pilots on ground

NOTE: When in doubt, use the taxi light. (Turn off taxi light if pointed at another pilot within 300 ft.)

d. Maintain a minimal taxi interval between aircraft of 300 ft on centerline

NOTE: Obstructions are usually marked with red or flashing amber lights.

2. Common errors

a. Error: improper taxi interval due to lack of normal visual cues and fixation on aircraft lights

Prevention/correction: constant attention to all visual cues available and scan for relative motion

Sg 2, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* Ground procedures
* **Individual takeoff**
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* Night formation visual signals

II. Individual takeoff

A. Individual takeoff procedures **3.5.8.2.1**

NOTE: All night takeoffs are essentially instrument takeoffs from rotation until airborne.

1. Lead and wingman: perform night takeoff as in Night Familiarization stage

NOTE: Turn on strobe light crossing hold short, prior to takeoff.

2. Wingman: when VFR and safely airborne, fly to briefed TACAN rendezvous point

Sg 3, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* Ground procedures
* Individual takeoff
* **TACAN rendezvous**
* Parade turns
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* Lead change
* Section approach
* T&G rejoin/missed approach
* Section break
* Full flap/slat T&G landings
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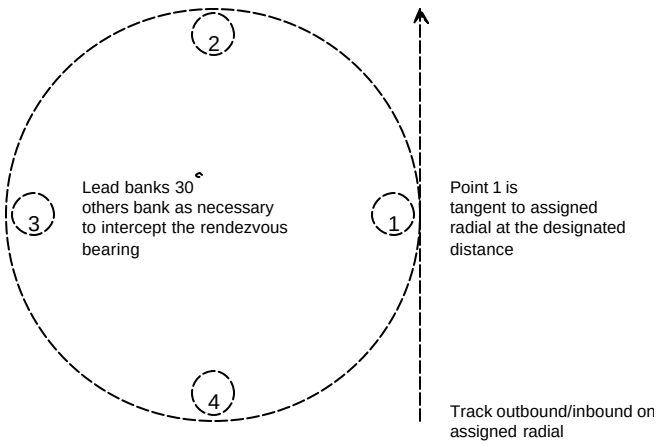
Sg 3, fr 2



TACAN RENDEZVOUS

III. TACAN rendezvous **3.7.1.1.6.1**

A. Procedures: same as day procedures except

1. Wingman

   a. Ensure 500-ft stepdown below lead's briefed altitude

   b. Fly to point No. 1 and commence a 30-degree turn if lead is not sighted

   c. Visually acquire sight of lead's lights. Transmit "[flight call sign], strobes" to confirm the lights you have are the lead's, then "Visual" when lead turns off strobes and you have positively identified the lead. With a visual and established on bearing with fuselage alignment, move up to co-altitude

   d. Fly a maximum of 45 degrees AOB to intercept bearing line, utilize lead/lag to align fuselages

      NOTE: Maintain altitude while maneuvering.

   e. Conduct night rendezvous

B. Common error

LESSON NOTES

If the wingman does not have sight, stay at least 500 ft below the rendezvous altitude. The lead stays at the rendezvous altitude.

1. Error: wingman does not acquire sight of lead aircraft

   Correction: wingman broadcast “Blind” and

   a. If lead has sight of wingman, lead should talk wingman’s eyes onto lead’s aircraft

   b. If blind

      (1) Call position

      (2) Both aircraft double-check correct TACAN channel setting and ensure proper radial/DME

      (3) Utilize strobe lights to locate each other

Sg 4, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* Ground procedures
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* Section break
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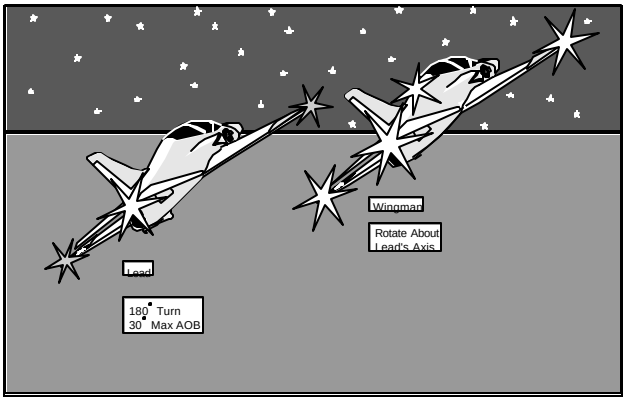
* Night formation visual signals

IV. Parade turns

A. Section IFR parade turns away/into **3.7.1.1.1.6.1.1**

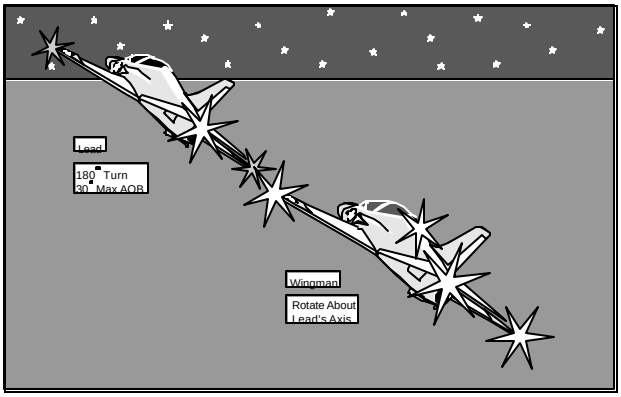
1. Procedures same as day procedures except

Sg 4, fr 2



PARADE POSITION: IFR TURN AWAY

Sg 4, fr 3



PARADE POSITION: VFR/IFR PARADE TURN INTO WINGMAN

a. Lead: fly with anti-collision light off and external lights on dim and steady

b. Wingman: fly with anti-collision light on and external lights on bright/steady

2. Common errors

a. Error: not matching the lead's rate of roll due to lack of response to poor visual cues during turns

Correction: recognize and react to initial movement of lead aircraft, keep eye movement (scan) moving on lead aircraft

Sg 5, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

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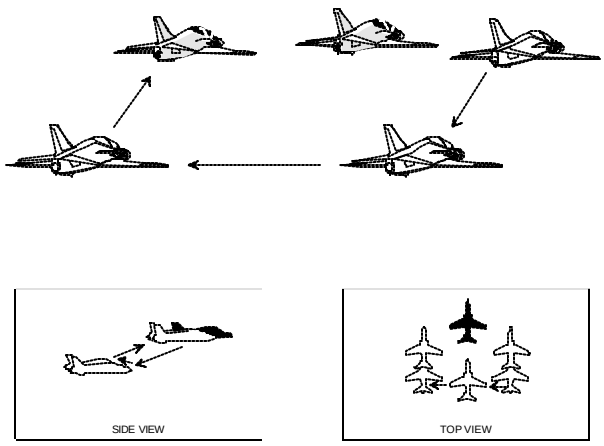
Sg 5, fr 2



BOX CROSSUNDER

V. Crossunder **3.7.1.1.1.7.2**: use box crossunder only; same as day procedures including common errors

Sg 6, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

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Sg 6, fr 2

BREAKUP AND RENDEZVOUS

* Use lights to signal breakup
* Break same as day
* Co-airspeed rendezvous
* Use light triangle

VI. Breakup and rendezvous

A. Breakup and rendezvous exercise **3.7.1.1.4.5.2**: same as day procedures except

1. Lead: to kiss off wingman

   a. Switches external lights to bright and steady (preparatory signal)

   b. Turns anti-collision light on (execute signal)

2. Perform breakup with 2-second interval at 14-15 unit AOA, 250 KIAS, and 180 degrees

3. Wingman: establish 1,000 ft in trail

4. Lead: waits 5-10 seconds, then rolls into 30-degree AOB turn in either direction

5. Wingman: wait until lead is 10-20 degrees left or right of nose, then initiate a 45-degree AOB turn to begin rendezvous

   NOTE: Perform co-airspeed rendezvous.

B. CV rendezvous **3.7.1.1.7.1**

1. Procedures: same as day procedures except

a. Wingman

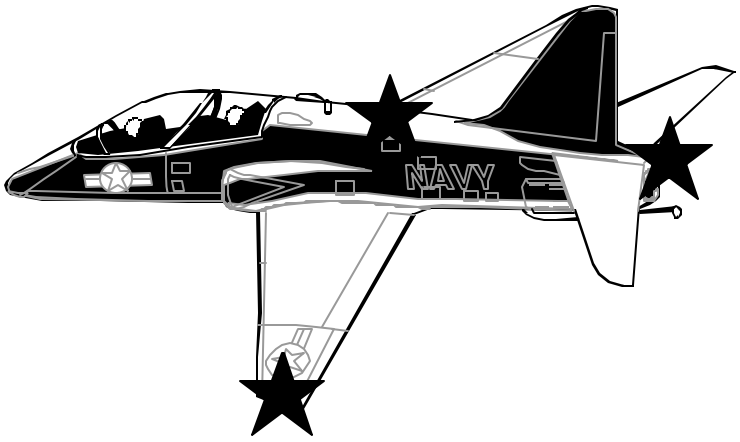
NOTE: For all night circling rendezvous, pulling too much lead or aligning fuselages too early may cause the aircraft to go acute. Therefore, place lead's lights in the windscreen just in front of the canopy bow. Maintain the lead in this position until you can distinguish individual position lights on the lead.

(1) Conduct co-airspeed rendezvous, using turn radius instead of airspeed to achieve closure

(2) Continually monitor airspeed and altitude until you can discern relative motion

b. When moving out to the bearing line and the fuselages are approximately aligned, look for lead's lights in the windscreen just in front of the canopy bow.

Sg 6, fr 3



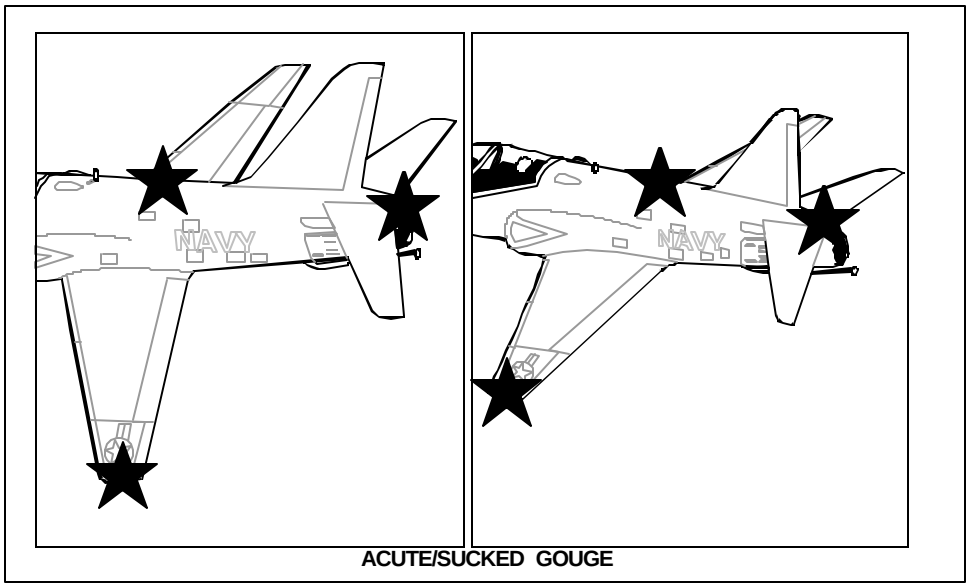
ON BEARING LINE

BEARING GOUGE

(1) If lead's anti-collision light appears above and midway between tail light and wingtip light, forming a triangle, wingman's aircraft is on correct bearing

NOTE: While this position is more sucked than the daytime bearing, it is easier to monitor and allows more margin for error.

Sg 6, fr 4



ACUTE/SUCKED GOUGE

(2) If lead's anti-collision light is closer to wingtip light, aircraft is acute

(3) If lead's anti-collision light is closer to tail light, aircraft is sucked

c. Execute a normal join-up, rendezvous is complete when wingman is in IFR parade turn-away position

2. Common errors

a. Error: fixation on one light (moth effect), poor bearing control, poor altitude control, poor closure control, or any combination thereof

Correction: use "light triangle" (anti-collision, tail, and wingtip lights) on lead's aircraft coupled with appropriate instrument scan; do not fixate on any one light.

b. Error: improper bearing control due to poor concentration on minimal visual cues

Prevention: concentrate on changes in light triangle that lead to proper bearing control

c. Error: going too low in relation to lead during breakup and rendezvous due to improper inside/outside scan

Prevention/Correction: properly scan altimeter and lead's lights, ensuring proper altitude maintained throughout breakup and rendezvous

d. Error: improper closure rate due to poor concentration on minimal visual cues and poor instrument (airspeed) scan

Prevention/Correction: continually monitor airspeed until relative motion can be detected; inside/outside scan

e. Error: sucked position during join-up due to stopping too early and crossing under with too much nose-to-tail

Prevention: ensure proper closure until in close where relative motion can be recognized and proper crossunder can be accomplished to arrive in parade position

f. Error: late recognition of parameters for underrun due to improper scan of airspeed and poor recognition of excessive closure rate

Prevention: scan airspeed and light triangle for relative motion, ensuring proper closure maintained—keep eyes moving, don't fixate

C. Underrun **3.7.1.1.1.5.2**: same as day procedures including common errors except

1. After underrun, maintain altitude outside lead's radius of turn and establish 500 ft stepdown and 250 KIAS

NOTE: Do not maneuver to day "stepped-up" position.

2. When cleared back in by lead, cross back into CV rendezvous circle and reestablish CV rendezvous

NOTE: Underruns will not be induced by lead at night.

Sg 7, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

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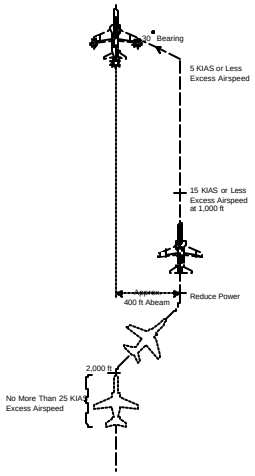
Sg 7, fr 2



RUNNING RENDEZVOUS

VII. Running rendezvous **3.7.1.1.5.1**

A. Wingman

1. Lead will transmit over tactical frequency, “This will be a running rendezvous.” Break interval will be 4 seconds.

2. Maintain altitude in break turn with instrument scan

3. Establish 25 KIAS excess closure

4. Maintain 6 o’clock approach until 2,000 ft from lead with no more than 25 KIAS excess, at which time move aircraft out 400 ft abeam to 5 or 7 o’clock position from lead and establish parallel course

5. Use maximum excess of 25 KIAS until reaching 1,000 ft

6. Maintain parallel course at no more than 15 KIAS of closure within 1,000 ft from lead until arriving on rendezvous bearing off lead and reduce closure rate to 5 KIAS maximum

   NOTE: Use lower anti-collision light lined up with wingtip position light for bearing control.

7. Adjust power and join up in parade

8. When close aboard, call “Lights” if required

B. Lead: when wingman close-aboard or has broadcast “Lights”

1. Turn anti-collision light off

2. Turn external lights to dim and steady

Sg 8, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

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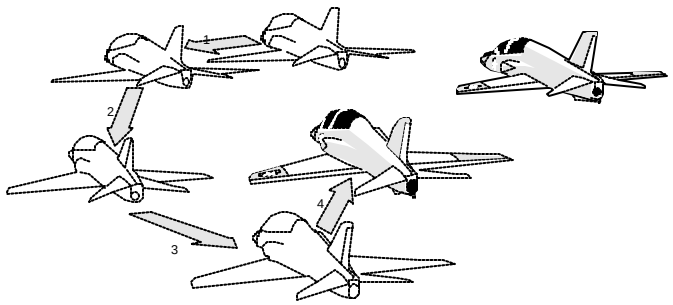
Sg 8, fr 2



LEAD CHANGE

VIII. Lead change **3.7.1.1.1.4.3**

A. Procedures

1. Conduct primary communications for lead change via radio

2. Lead will turn external lights to bright and steady, anti-collision light on

3. Lead will then transmit “[flight call sign] two, you have the lead on the right/left.”

   Wing will transmit “[flight call sign] two, I have the lead on the right/left.”

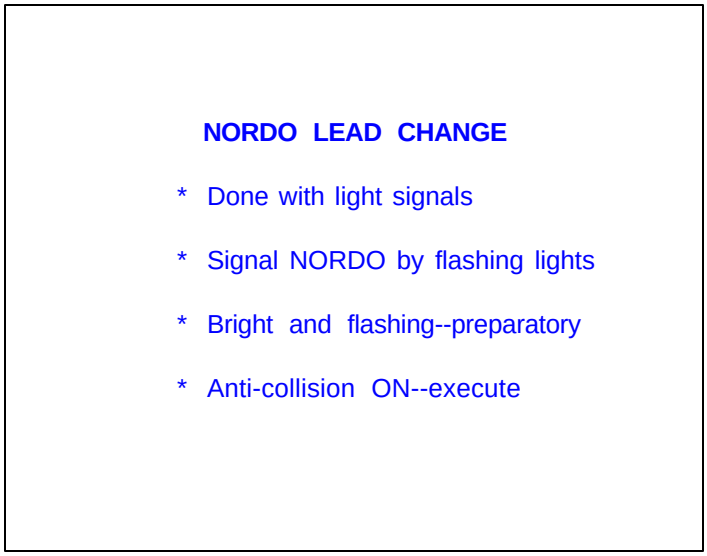
   NOTE: The lead is formally passed when wingman verbally accepts lead over radio.

4. Wing (new lead) will turn external lights to dim and steady, anti-collision light off

5. Lead (new wing) will move to IFR parade position

6. After a fuel check by new lead, pass lead back, or as briefed.

Sg 8, fr 3



B. NORDO lead change

1. Procedures

a. If lead NORDO, to signal wingman to take lead:

(1) If external lights operative

(a) Switch lights to flashing—to indicate NORDO

(b) Switch lights to bright and flashing—preparatory

(c) Switch anti-collision light on—to indicate lead change

(2) If external lights inoperative, shine flashlight at own helmet, then shine it toward wingman, then abruptly turn away, and execute lead change maneuver

b. Wingman

(1) Wingman accepts lead

(a) Secure anti-collision light—to indicate acceptance of lead

(b) Switch to dim and steady

c. Lead: when wingman assumes lead, move back to IFR parade position

2. Common error

a. Error: angling into/away from new lead due to lack of visual cues during lead change

Prevention: realize that visual cues will be difficult to recognize so be very exact with aircraft control

Sg 9, fr 1

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Sg 9, fr 2

SECTION APPROACH

Same as day except configuration changes executed over radio.

IX. Section approach

A. Section penetration with instrument approach procedures **3.9.1.5.1.1**: same as day procedures except configuration changes executed over radio

1. Speed brakes

a. Procedure

(1) Lead: transmits "[call sign] speed brakes (pause) now"

(2) Lead and Wingman: extend full speed brakes

b. Common errors

(1) Error: pilot-induced oscillations

Correction: relax and do not overcontrol

(2) Error: student goes acute when lead's speed brakes come out

Correction:

(a) Reduce power

(b) Ensure speed brakes out

(c) Fly slightly wider until situation is under control

(d) Reestablish bearing

2. Landing configuration procedures **3.9.2.1.1.2**: same as day procedures except signals for lowering gear and flaps are via radios—lead transmits "[call sign] gear and half flaps (pause) now"

3. Lost sight procedures **3.7.1.5.1**

a. Aircraft transmits "[Call sign], lost sight"

b. Other aircraft

(1) Confirm visual contact (utilize strobes, if necessary) and direct join-up or

(2) Confirm mutual lost sight

(a) Lead: direct TACAN rendezvous

(b) Wingman

i. Ensure 500 ft below lead's briefed altitude

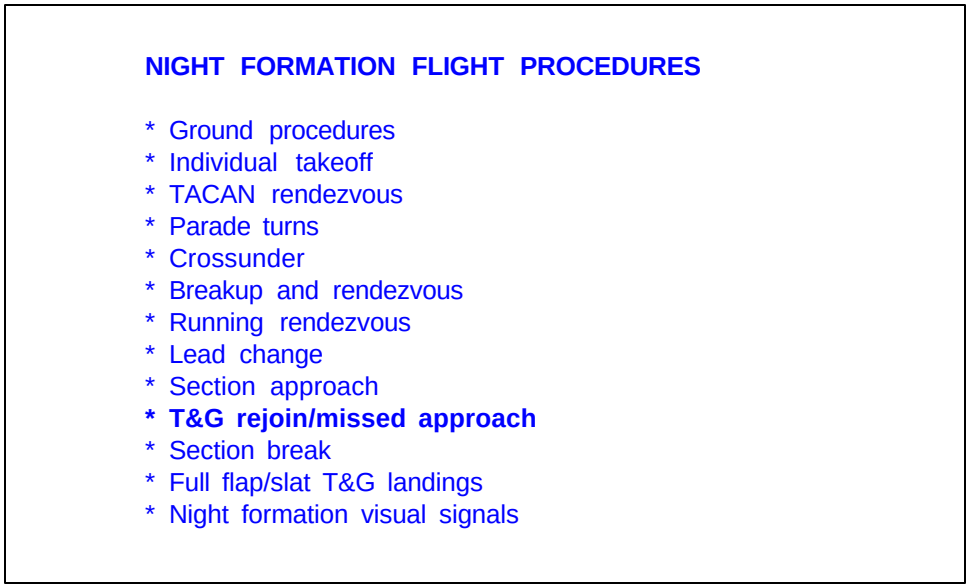
ii. Acquire sight of lead's lights (call strobes for confirmation)

iii. When fuselage aligned on bearing, move up to co-altitude

iv. Conduct co-airspeed rendezvous

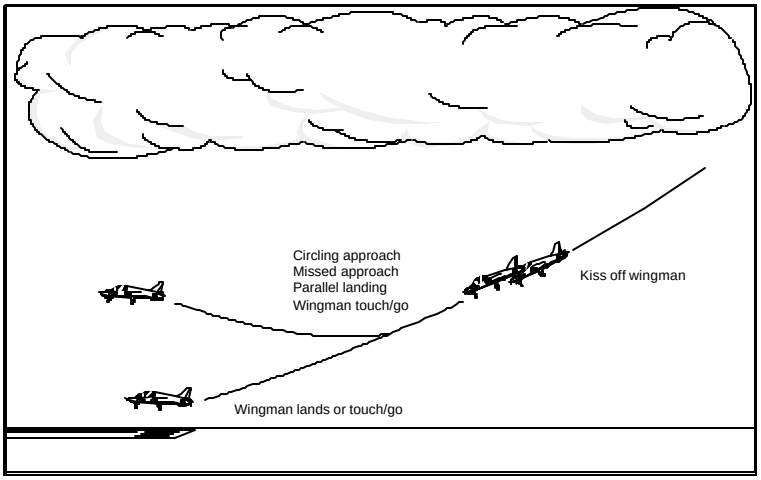
(c) If NORDO: perform briefed lost comm/lost sight procedures

Sg 10, fr 1



X. T&G rejoin/missed approach

Sg 10, fr 2



SECTION APPROACH: WINGMAN LANDS OR TOUCH/GO

A. Touch and go to rejoin: same as day procedures except

NOTE: Normally flown on NFORM-02.

1. Lead

a. Before section separation

(1) Ensure wingman is informed of flight intentions after approach, i.e., rejoin and depart for overhead break, tower downwind after rejoin, or split dual runways

(2) Select bright and steady for external lights and then turn on anti-collision light—to signal wingman cleared for landing

b. Detach wingman (normally at 400 ft AGL) by

(1) Smartly breaking away

(2) Adding power, speed brakes in

(3) Turning to parallel runway

(4) Climbing to briefed rendezvous altitude, maintaining VFR (normally 500 ft AGL)

(5) Flying aircraft to appropriate 10/2 o'clock position from wingman

(6) Maintaining briefed airspeed (150 KIAS) and configuration (dirty, 1/2 flaps, speed brakes in)

2. Wingman

(1) Transition to ball

(2) Perform touch and go

(3) After lift-off, ensure speed brakes in and climb up to put lead on horizon, intercept bearing line and rendezvous on lead using a running rendezvous

c. Lead, as wingman joins:

(1) Turn off anti-collision light

(2) Switch lights to dim and steady or as briefed

(3) When wingman stabilized in parade position, transmit "[call sign] gear and flaps [pause] now"

d. Lead and wingman: raise gear and flaps/slats

e. Lead and wingman: execute climbout procedures as directed

B. Section missed approach **3.9.1.6.2**

NOTE: Normally flown on NFORM-03X.

NOTE: If conditions prohibit a touch and go, a section missed approach will be performed.

1. Procedures same as day procedures except

a. Lead

(1) Add power to a maximum of 97% rpm, then put speed brakes in

(2) Passing 140 KIAS, use radio and transmit "[call sign] gear and flaps [pause] now"

(3) If wingman NORDO, use flashlight signal for raising gear and flaps/slats: circular motion with flashlight as preparatory signal, then sharply drop flashlight vertically below canopy rail for execution

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Choose from menu to show video of signals and/or continue with the lesson.

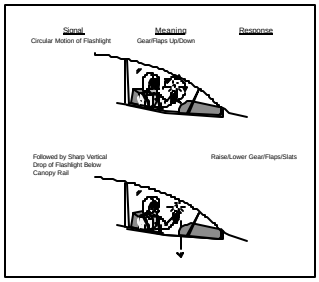
Sg 10, fr 3

NIGHT VISUAL SIGNALS MENU -- APPROACH

1. Raise/lower gear/flaps
2. **Continue with lesson**

Please select >

Video
Sg 10, fr 4



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b. Wingman: raise gear and flaps/slats when signaled

NOTE: Wingman report clean over radio tactical frequency.

c. Lead and wingman: listen for any instructions from approach control

2. Common error

a. Error: pilot-induced oscillations during transitions

Prevention: relax and trim aircraft throughout transitions

C. Formation recovery to VFR landing pattern procedures **3.9.1.4.1.2**: same as day procedures except use normal light configuration for night formation

D. Section instruction approach with wingman NORDO procedures **3.9.1.5.3.1**

1. NORDO aircraft attracts attention by switching external lights to bright and flashing

2. Lead

a. Signal wingman with flashlight; move flashlight vertically to acknowledge NORDO

(1) Use light signals to change aircraft configuration

(a) Speed brakes: preparatory signal is three dashes with external lights; pause, then execute when lights come back on steady

(b) Gear and flaps/slats: lead shines flashlight in a circular motion as preparatory signal, then sharply drops flashlight vertically below canopy for execution

Sg 11, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* Ground procedures
* Individual takeoff
* TACAN rendezvous
* Parade turns
* Crossunder
* Breakup and rendezvous
* Running rendezvous
* Lead change
* Section approach
* T&G rejoin/missed approach
* **Section break**
* Full flap/slat T&G landings
* Night formation visual signals

Sg 11, fr 2

SECTION BREAK

Procedure same as day procedures except

* Ensure airspeed for break is 250 KIAS

* To signal break, lead turns on external lights to bright and steady and then turns on anti-collision light

* Break using maximum 60 degrees AOB

NOTE: Carrier break not authorized at night.

XI. Section break **3.9.1.3.3.1**

A. Procedure same as day procedures except

1. Ensure airspeed for break is 250 KIAS

2. To signal break, lead turns on external lights to bright and steady and then turns on anti-collision light

3. Break using maximum 60 degrees AOB

NOTE: Carrier break not authorized at night.

B. Common error

1. Error: wingman will climb or descend in break, which is a result of improper inside/outside scan

Prevention: upon lead’s break, scan lead's lights and altimeter to confirm level break

Sg 12, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* Ground procedures
* Individual takeoff
* TACAN rendezvous
* Parade turns
* Crossunder
* Breakup and rendezvous
* Running rendezvous
* Lead change
* Section approach
* T&G rejoin/missed approach
* Section break
* **Full flap/slat T&G landings**
* Night formation visual signals

Sg 12, fr 2

FULL FLAP/SLAT T&G LANDINGS

* Same as day landings
* All full stop landings to runway centerline with taxi light on
  - Turn off at 2 board, if available

XII. Full flap/slat T&G landings

A. Same as day landings

B. All full stop landings to runway centerline with taxi light on

1. Turn off at 2 board, if available

Sg 13, fr 1

NIGHT FORMATION FLIGHT PROCEDURES

* Ground procedures
* Individual takeoff
* TACAN rendezvous
* Parade turns
* Crossunder
* Breakup and rendezvous
* Running rendezvous
* Lead change
* Section approach
* T&G rejoin/missed approach
* Section break
* Full flap/slat T&G landings
* **Night formation visual signals**

XIII. Night formation visual signals **3.7.1.4.1**

NOTE: The radio is the primary means for night formation signaling, but in NORDO conditions, the following flashlight/lighting configuration signals are used.

Sg 13, fr 2

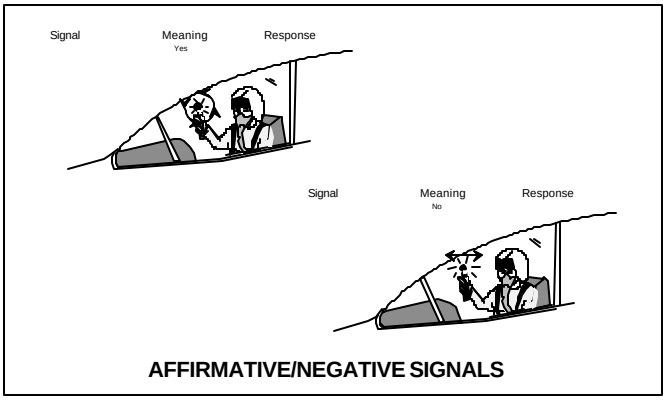
Choose from menu to show graphic of signal and/or continue with the lesson.

NIGHT VISUAL SIGNALS MENU -- GENERAL

1. Affirmative/Negative
2. **Continue with lesson**

Please select >

Sg 13, fr 3



AFFIRMATIVE/NEGATIVE SIGNALS

A. Affirmative/Negative

Choose from menu to show video of HEFOE signal and/or continue with the lesson.

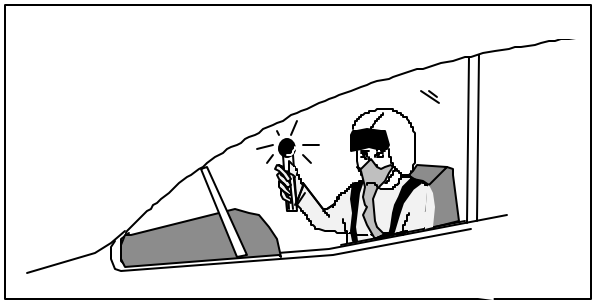
Sg 13, fr 4

NIGHT VISUAL SIGNALS MENU -- HEFOE CODE

1. Hydraulic system
2. Electrical system
3. Fuel system
4. Oxygen system
5. Engine system
6. **Continue with lesson**

Please select >

Video
Sg 13, frms 5, 6, 7, 8, 9



B. HEFOE code

1. Signal: hold flashlight close to top of canopy, then point toward other aircraft and present dashes to indicate system affected

   a. Hydraulic system: one dash

   b. Electrical system: two dashes

   c. Fuel system: three dashes

   d. Oxygen system: four dashes

   e. Engine: five dashes

2. Response: move flashlight vertically

C. Formation

1. Strobe lights not used during night formation

2. Radio failure: external lights, bright and flashing

Sg 14, fr 1

Choose from menu to review graphics or video and/or end the lesson.

NIGHT FORMATION FLIGHT PROCEDURES REVIEW OPTIONS

A. Entire lesson
B. Ground procedures
C. TACAN rendezvous
D. Parade turns
E. Crossunder
F. Breakup and rendezvous
G. Running rendezvous
H. Lead change
I. Section approach
J. T&G rejoin/missed approach
K. Section break
L. Full flap/slat T&G landings
M. Night formation visual signals
N. **End this lesson**

Please select >

SUMMARY

During this lesson we discussed night-specific information on:

* Ground procedures
* Individual takeoff
* TACAN rendezvous
* Parade turns
* Crossunder
* Breakup and rendezvous
* Running rendezvous
* Lead change
* Section approach
* T&G rejoin/missed approach
* Section break
* Full flap/slat T&G landings
* Night formation visual signals

CONCLUSION

You should realize that the major difference between day and night formation flight is the lack of visual cues. As a result, airspeeds and signals are different, and all positions are defined by lights. You should also realize that flying night formation requires uncompromising precision and attention to detail.